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Proposed Maximum Residue Limit PMRL2014-93

Cypermethrin

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) has concluded that the addition of new uses to the product label of UP-Cyde 2.5 EC, containing technical grade cypermethrin, is acceptable. The specific uses approved in Canada are detailed on the label of UP-Cyde 2.5 EC, *Pest Control Products Act* Registration Number 28795.

The evaluation of this cypermethrin application indicated that the end-use product has merit and value and the human health and environmental risks associated with the new uses are acceptable.

Before registering a pesticide for food use in Canada, the PMRA must determine the quantity of residues that are likely to remain in or on the food when the pesticide is used according to label directions and that such residues will not be a concern to human health. This quantity is then legally established as a maximum residue limit (MRL). An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except where separate MRLs are specified for the raw agricultural commodity and a processed product made from it.

Consultation on the proposed MRLs for cypermethrin is being conducted via this document (see Next Steps, the last section of this document).

To comply with Canada's international trade obligations, consultation on the proposed MRLs is also being conducted internationally by notifying the World Trade Organization, as coordinated by the Standards Council of Canada.

The proposed MRLs, to replace MRLs already established for cypermethrin, are as follows.

Table 1 Proposed Maximum Residue Limits for Cypermethrin

Common Name	Residue Definition	MRL (ppm)[1]	Food Commodity
Cypermethrin	cyano(3-phenoxyphenyl)methyl-3-(2,2-dichloroethenyl)-2,2-dimethyl-cyclopropanecarboxylate	0.1	Canola oil, fat of poultry, meat and meat by-products of cattle, goats, horses, poultry and sheep
		0.05	Fat, meat and meat by-products of hogs, milk
		0.03	Eggs

[1] ppm = parts per million

MRLs established in Canada may be found using the Maximum Residue Limit Database on the Maximum Residue Limits for Pesticides webpage. The database allows users to search for established MRLs, regulated under the *Pest Control Products Act*, both for pesticides or for food commodities.

International Situation and Trade Implications

MRLs may vary from one country to another for a number of reasons. In the case of livestock commodities, differences in MRLs can be due to different livestock feed items and practices.

Table 2 compares the MRLs proposed for cypermethrin in Canada with corresponding American tolerances and Codex MRLs[1]. American tolerances are listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide. A listing of established Codex MRLs is available on the Codex Alimentarius Pesticide Residues in Food website, by pesticide or commodity.

Table 2 Comparison of Canadian MRLs, American Tolerances and Codex MRLs (where different)

Food Commodity	Canadian MRL (ppm)	American Tolerance (ppm)	Codex MRL[1] (ppm)
Fat of hogs	0.05	0.10	2 (meat from mammals) – based on fat
Meat of cattle, goats, horses, sheep	0.1	0.2	2 (meat from mammals)
Meat of hogs	0.05	0.05	2 (meat from mammals)
Meat by-products of cattle, goats, horses, sheep	0.1	0.05	0.05 (edible offal from mammals)
Meat by-products of hogs	0.05	None	0.05 (edible offal from mammals)
Fat of poultry	0.1	0.05	0.1
Meat of poultry	0.1	0.05	0.1
Meat by-products of poultry	0.1	none	0.05 (edible offal)

[1] The Codex Alimentarius Commission is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

Food Commodity	Canadian MRL (ppm)	American Tolerance (ppm)	Codex MRL[1] (ppm)
Milk	0.05	2.5 for milk fat (0.1 ppm for whole milk)	0.05 (milks)
Eggs	0.03	0.05	0.01
Canola oil	0.1	none	none

[1] Codex MRL reflects cypermethrins, including alpha- and zeta-cypermethrin

Next Steps

The PMRA invites the public to submit written comments on the proposed MRLs for cypermethrin up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs. Comments received will be addressed in a separate document linked to this PMRL. The established MRLs will be legally in effect as of the date that they are entered into the Maximum Residue Limit Database.

Appendix I

Summary of Field Trial Data Used to Support the Proposed MRLs

Previously reviewed residue data from field trials conducted in/on carrots, field and sweet corn, canola and potatoes were reassessed in the framework of this petition. In addition, processing studies in treated potato, field corn and canola were also reassessed to determine the potential for concentration of residues of cypermethrin into processed commodities.

Maximum Residue Limit(s)

The recommendation for maximum residue limits (MRLs) for cypermethrin was based upon the submitted field trial data, and the guidance provided in the OECD MRL Calculator. MRLs to cover residues of cypermethrin in/on crops and processed commodities are consistent with those proposed under the zeta-cypermethrin import MRL submission (2009-3037).

Based on the dietary burden and residue data, MRLs of 0.1 ppm in canola oil, fat of poultry, meat and meat by-products of cattle, goats, horses, poultry and sheep; 0.05 ppm in fat, meat and meat by-products of hogs and milk, and 0.03 ppm in eggs to cover residues of cypermethrin are proposed.

An aggregate exposure to cypermethrin (including zeta-cypermethrin), from all relevant sources (food and water) was required. The acute and non-cancer chronic dietary exposure assessments have demonstrated that consumption of the above listed commodities will not pose a human health concern for any segment of the population, including infants, children and seniors.

The lifetime cancer risk from exposure to total cypermethrin residues (including zeta-cypermethrin) exceeds PMRA's level of concern for the general population. Therefore, only MRLs at or below 0.1 ppm were recommended, where applicable. For all remaining crops, residues will be covered under the 0.1 ppm default MRL.

Following the review of all available data, MRLs as proposed are recommended to cover residues of cypermethrin. Residues of cypermethrin in canola oil and the listed livestock commodities at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children and seniors.